



Silver anniversary

The silver anniversary of the launch of the first manned mission to the moon is Dec. 21. Relive the memories. Story on Page 3.



Deer and armadillo play

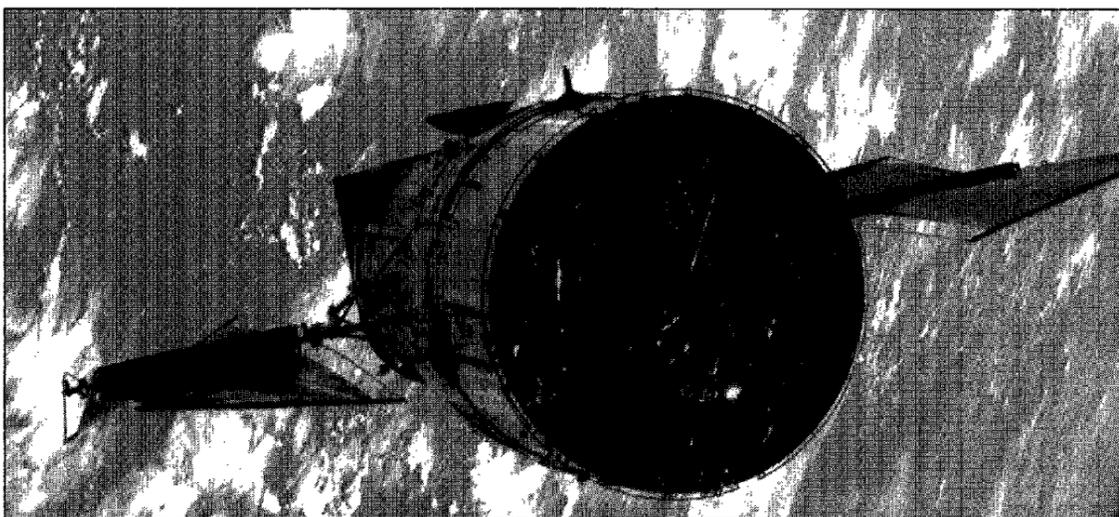
Deer and other wildlife roam the wooded areas of JSC. Employees can help keep them from being seriously injured. Photo on Page 4.

Space News Roundup

Vol. 32

December 13, 1993

No. 48



Top: The Hubble Space Telescope awaits its rendezvous with *Endeavour* and the crew of STS-61. The bent solar array bi-stem can be seen on the left side of the telescope. When the array could not be retracted, that damaged panel was subsequently jettisoned by Kathy Thornton. Thornton and Tom Akers removed and stowed the undamaged array in *Endeavour's* cargo bay for a return trip to Earth. Akers and Thornton then installed new solar arrays.

Right: Story Musgrave and Jeff Hoffman begin removing Wide Field/Planetary Camera I from the Hubble Space Telescope. Musgrave is in the solid white extravehicular mobility unit and Hoffman wears solid red stripes on the legs of his EMU. During the 6 hour 47 minute EVA, Musgrave and Hoffman installed the upgraded WF/PC II. The newly installed equipment is expected to allow completion of the scientific objectives of the telescope.

NASA photos



Space walkers perform surgery on ailing telescope

Historic servicing mission meeting ambitious Hubble servicing objectives

By Kelly Humphries

The crew of the Space Shuttle *Endeavour* this week installed spectacles needed to sharpen the vision of the Hubble Space Telescope, and were preparing for a record fifth space walk.

Whether the new Wide Field/Planetary Camera II and the Corrective Optics Telescope Axial Replacement unit will restore HST's ability to peer into the deepest secrets of the universe won't be known for certain until several grueling weeks of testing are completed. Initial functional tests did, however, show that the new instruments were alive and working.

With the help of flight controllers on the ground, Commander Dick Covey and Pilot Ken Bowersox guided *Endeavour* to a successful rendezvous on Dec. 3, and robot arm operator Claude Nicollier provided the helping hand needed to grapple HST and put the space walkers into position for their instrument swaps.

Endeavour lifted off from Kennedy Space Center's Launch Pad 39B at 3:27 a.m. CST Dec. 2, and was scheduled to land at 1:12 a.m. today at Kennedy Space Center in Florida. A welcome home ceremony is planned for about 9 1/2 hours after touchdown at Ellington Field.

In addition to installing new optics to correct for HST's spherical aberration, the four space walkers also upgraded several of the observatory's operational systems, verifying the concept of extensive on-orbit servicing and giving NASA scientists and engineers added confidence that STS-61 and future servicing missions will allow HST to achieve its 15-year design life and complete its jam-packed scientific observation schedule.

Covey maneuvered *Endeavour* to within 30 feet of the free-flying HST before Nicollier used the robot arm to grapple the telescope at 2:48 a.m. CST Dec. 3. With *Endeavour* several hundred miles east of Australia over the South Pacific, Nicollier berthed the telescope on its lazy Susan work platform in the cargo bay at 3:26 a.m. CST.

"Houston, *Endeavour* has a firm handshake with Mr. Hubble's telescope," Covey said at grapple. When *Endeavour* captured the HST, it had traveled 530 million miles and made 19,695 orbits of the Earth.

In a space walk lasting 7 hours, 54 minutes, Hoffman and Musgrave the next day installed two gyroscope rate sensor unit packages and restored the redundancy of HST's ability to precisely point its instruments.

It took Akers and Thornton 6 hours, 36 minutes to complete their first space walk of the mission, which included jettisoning a bent solar array that refused to roll up completely, and installing two new solar arrays that will provide the power necessary to operate HST's instruments.

"It looks like a bird," Thornton told ground flight controllers as the array fluttered away from her perch on the end of the robot arm.

Hoffman and Musgrave spent 6 hours, 47 minutes outside the crew cabin Monday night and Tuesday morning as they replaced WF/PC on the next day. "I hope we have a lot of scientists eager to use this beautiful thing," Hoffman said after the installation.

Akers and Thornton installed the phone booth-sized COSTAR in a 6 hour, 50 minute space walk Tuesday night and Wednesday morning.



Bill approving locality pay signed

President Clinton has signed an order approving the implementation of locality pay increases for federal employees.

For most JSC employees, approval of locality pay means an average salary increase of 6.52 percent which becomes effective Jan. 9. The increase applies to NASA employees with duty stations in Houston although some JSC employees will not be eligible for the locality increase.

The largest group of employees ineligible for the locality pay increase includes engineers at the GS-7 through GS-11 grade levels, plus GS-12 electrical, electronic and computer engineers, and medical doctors at all grade levels. These people are excluded by law from the

locality pay system since they are on special salary rates which exceed the new pay rates. Additionally NASA employees, primarily in California, who are receiving Interim Geographic Adjustment pay, are excluded from this increase.

The locality pay increase will benefit employees in a couple of ways according to Greg Hayes, deputy director of Human Resources. "It establishes a new pay system which links our pay more closely with people in our geographic location, and it results in a pay increase for most employees" said Hayes. "However, it also comes at a time when we are facing serious budgetary problems and we will be looking at ways to find the money."

It is uncertain whether members

of the Senior Executive Service and employees in Senior Scientific and Technical positions are eligible for the increase. People serving as "NASA Excepteds" will not receive locality pay.

Employees with duty stations in White Sands, NM, El Paso, TX and at Kennedy Space Center will receive locality pay increases averaging 3.09 percent.

Additional information about locality pay will be provided to employees by the Human Resources Department shortly. In the meantime employees should contact their Human Resources Representative or contact Curtis Collins at x33002 to answer any questions concerning eligibility or implementation of the pay plan.

JSC exceeds CFC targets

Donating a total of \$450,247, JSC employees boosted this year's Combined Federal Campaign grand total to 102.3 percent of the center's 1993 goal.

According to the final tally, over half of the major organizations gave more than 100 percent of their 1993 goals. The offices that topped their goals by the most were the Equal Opportunity Programs Office with 215.2 percent, Office of the Director with 200.6 percent, and the Human Resources office with 183.4 percent.

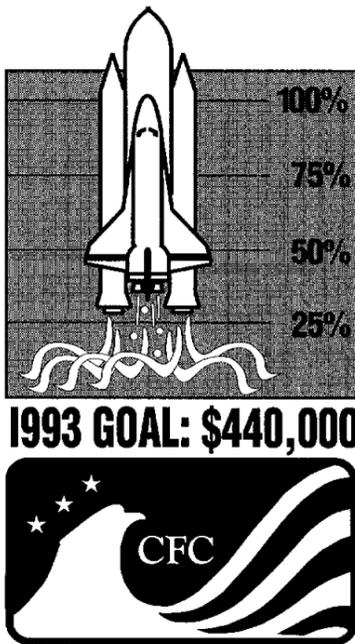
Employees contributed almost 2 percent more than they did in 1992, including over 383 employees who gave one hour's pay per month, 46 who gave two hours pay per month and 103 who gave over \$600. The Engineering Directorate contributed the largest dollar amount with \$117,404 or 112.8 percent of its

goal. The Mission Operations Directorate gave the next largest amount totaling \$86,626 or 116.3 percent of its goal. The final figures also show that 2,627 or 74 percent of civil service employees participated in the campaign.

The Office of the Director, the Equal Opportunity Program Office, Space Station *Freedom* Program and Operations Office, the Legal Office, and the Assured Crew Return Vehicle Project Office reported 100 percent or more participation.

JSC employees at the White Sands Test Facility contributed \$3,913 to the Sun Country CFC and had 84 percent participation. Winners of the three airline tickets which were provided by Continental Airlines were: Kevin Window, DE;

Please see CFC, Page 4



Station partners invite Russia to take historic step for peace

The international space station partners have agreed to extend a formal invitation to the government of the Russian Federation to join the international space station program.

Following a Dec. 6 meeting in Washington D.C., representatives of the United States, Canada, Japan and certain member states of the European Space Agency announced the "historic step toward advancing the peaceful exploration of space."

The partners are now awaiting Russia's response to the invitation, which is being conveyed to the government of Russia through diplomatic channels.

In reaching the decision, the partners recognized Russia's impressive record of accomplishments in space and human space flight activ-

ities. The partners also recognized that Russian involvement in the space station program represents important progress in reaching the shared objective of building broad cooperative efforts with Russia.

This decision follows the agreement of the space station partner Governments at the Intergovernmental Meeting held on Oct. 16 in Paris and ensuing intensive consultation among the partners.

The partner Governments have agreed the expanded partnership will operate consistent with the Intergovernmental Agreement of Sept. 29, 1988 on Cooperation in the Detailed Design, Development, Operation, and Utilization of the Permanently Manned Civil Space Station while working together on the necessary legal instruments to include Russia in the partnership.

JSC

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

Apollo 8 anniversary party — Tickets for the Dec. 18 Space Center Houston celebration of the 25th anniversary of Apollo 8 are on sale through Dec. 14. Cost is \$10 per person.

Entertainment '94 Coupon Books — Bay Area/Galveston/Downtown or FM 1960/Downtown: \$30 each, \$1 off first book for civil servants. Gold C Books: \$8

Space Center Houston — Discount tickets: adult, \$7.50; child (3-11), \$4.50; commemorative, \$9.95.

Metro tickets — Passes, books and single tickets available.

Movie discounts — General Cinema, \$4.50; AMC Theater, \$3.75; Loew's Theater, \$4.

Upcoming events: Children's Christmas Party, New Year's Eve Dance.

Stamps: Book of 20, \$5.80

JSC

Gilruth Center News

Sign up policy — All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a NASA badge or yellow EAA dependent badge. Classes tend to fill up two weeks in advance. Payment must be made in full, in exact change or by check, at the time of registration. No registration will be taken by telephone. For more information, call x30304.

EAA badges — Dependents and spouses may apply for photo identification badges from 6:30-9 p.m. Monday-Friday. Dependents must be between 16 and 23 years old.

Weight safety — Required course for employees wishing to use the weight room is offered from 8-9:30 p.m. Dec. 16. Pre-registration is required. Cost is \$5.

Defensive driving — Course is offered from 8:15 a.m.-3 p.m. Saturday. Next class is Jan. 8. Cost is \$19.

Aerobics — High/low-impact class meets from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32 for eight weeks.

Exercise — Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is \$24 for eight weeks.

Aikido — Martial arts class meets from 5-7:30 p.m. Tuesdays and 6:15-8:15 p.m. Wednesdays. Black Belt class from 6-8 p.m. Fridays, requires instructor permission. Cost is \$25 per month.

Self-defense — Self-defense workshop from 5-6 p.m. Dec. 15 at Gilruth Center. Registration is required but there is no cost to attend.

Western dance — Country and western dance classes begin Jan. 3. Beginner class meets from 7-8:30 p.m. Mondays and advanced class meets from 8:30-10 p.m. Mondays. Cost is \$20 per couple for six weeks.

Line dance — Classes meet from 7-8 p.m. Tuesday nights beginning Jan. 4. Cost is \$10 per person for six weeks.

Ballroom dance — Classes begin Jan. 6. Cost is \$60 per couple for eight weeks.

Flag football registration — Men's "C" teams play Tuesday or Wednesday nights, mixed teams play Thursdays beginning in January. Registration is 7 a.m. Dec. 13. Roster forms and additional information are available at the Gilruth Center.

Soccer registration — Men's and mixed teams play Saturdays beginning January 22. Registration is at 7 a.m. Dec. 13. Roster forms and additional information are available at the Gilruth Center.

Volleyball registration — Mixed "C" league will play Tuesdays and Fridays. Registration is Dec. 14 at 7 a.m. Mixed "B", Women's and Men's teams play Mondays. Registration is Dec. 15 at 7 a.m.

Basketball registration — Registration is at 7 a.m., Dec. 16. Play begins in January.

Fitness program — Health Related Fitness Program includes a medical examination screening and a 12-week individually prescribed exercise program. For more information, call Larry Weir at x30301.

JSC

JSC

Dates & Data

Today

Cafeteria menu — Special: breaded cutlet. Total Health: crispy baked chicken. Entrees: baked chicken, beef chop suey, smoked sausage and German potato salad, French dip sandwich. Soup: cream of broccoli. Vegetables: okra and tomatoes, peas, navy beans, baby carrots.

Tuesday

Cafeteria menu — Special: fried chicken. Total Health: vegetable lasagna. Entrees: Salisbury steak, steamed pollock, vegetable lasagna, French dip sandwich. Soup: split pea and ham. Vegetables: mixed vegetables, French cut green beans, pinto beans, vegetable sticks.

Wednesday

Russian speakers — Practice Russian language skills from 11 a.m.-1 p.m. Dec. 15 in the Bldg. 3 cafeteria. For more information, call Jack Bacon, x38725, or Amy Mendez, x38066.

Astronomy seminar — The JSC Astronomy Seminar will meet at noon Dec. 15 in Bldg. 31, Rm. 129. Dr. George Ciangaru of Lockheed will discuss the near-Earth space environment and local space activities. For more information, call Al Jackson, 333-7679.

Blood drive — Lockheed will host a blood drive from 8:30-11:30 a.m. Dec. 15 at Lockheed Plaza 3 and from 1:30-4 p.m. Dec. 15 at Lockheed Plaza 5. For more information, contact Joe Victor, x34791.

Cafeteria menu — Special: stuffed bell pepper. Total Health: stuffed bell pepper with creole

sauce. Entrees: fried catfish with hush puppies, stir-fry chicken and rice, wieners and beans, Reuben sandwich. Soup: seafood gumbo. Vegetables: buttered rice, Italian green beans, corn O'Brien, peas and carrots.

Thursday

Blood drive — Lockheed will host a blood drive from 8-11:30 a.m. and 1-3:30 p.m. Dec. 16 at Lockheed Plaza 1. For more information, contact Joe Victor, x34791.

Cafeteria menu — Special: barbecue smoked link. Total Health: roasted turkey breast. Entrees: turkey and dressing, beef stroganoff, chopped sirloin, French dip sandwich. Soup: tomato Florentine. Vegetables: Lima beans, buttered squash, Spanish rice, oriental vegetables.

Friday

Cafeteria menu — Special: meat sauce and spaghetti. Total Health: spaghetti noodles with turkey meat sauce. Entrees: rainbow trout, liver and onions, been cannelloni, pork and shrimp egg roll, Reuben sandwich. Soup: seafood gumbo. Vegetables: steamed broccoli, breaded okra, cut corn, black-eyed peas.

Monday

Cafeteria menu — Special: turkey and dressing. Total Health: herb flavored steamed pollock. Entrees: breaded veal cutlet, beef chop suey, steamed pollock, beef cannelloni, French dip sandwich. Soup: beef and barley. Vegetables: Brussels sprouts, mixed vegetables, egg plant casserole, winter blend vegetables.

Dec. 18

Christmas toys — Space Center Houston will be a collection site for the U.S. Marine Corps Reserve Toys for Tots Campaign. Donations may be dropped off between 9 a.m.-7 p.m. Dec. 18-19.

Holiday concerts — Space Center Houston will host a series of holiday choral concerts beginning at 10 a.m. For more information, contact 244-2100.

Dec. 20

Holiday concerts — Space Center Houston will host a series of holiday choral concerts beginning at noon. For more information, contact 244-2100.

Dec. 21

Blood drive — Lockheed will host a blood drive from 8-11:30 a.m. Dec. 21 at Lockheed Plaza 4. For more information, contact Joe Victor, x34791.

Holiday concerts — Space Center Houston will host a series of holiday choral concerts beginning at 10 a.m. For more information, contact 244-2100.

Dec. 22

Astronomy seminar — The JSC Astronomy Seminar will meet at noon Dec. 22 in Bldg. 31, Rm. 129. For more information, call Al Jackson, 333-7679.

Dec. 23

Holiday concerts — Space Center Houston will host a holiday choral concert beginning at 10 a.m. For more information, contact 244-2100.

Swap Shop

Swap Shop ads are accepted from current and retired NASA civil service employees and on-site contractor employees. Each ad must be submitted on a separate full-sized, revised JSC Form 1452. Deadline is 5 p.m. every Friday, two weeks before the desired date of publication. Ads may be run only once. Send ads to Roundup Swap Shop, Code AP3, or deliver them to the deposit box outside Rm. 147 in Bldg. 2. No phone or fax ads accepted.

Property

Sale/Lease: Friendswood, Wedgewood Village, 3-2-2, nice home; FP, fans, updated kitchen, new carpet, trees, fenced yard, formal dining, big living room. 482-0874.

Sale: Nassau Bay House, 4-2-2, on quiet street, ex cond. 333-9291.

Rent: Galveston condo, furn, sleeps 6, Seawall Blvd and 61st St, wknd/wkly, dly. Magdi Yassa, 333-4760 or 486-0788.

Rent: Arkansas cottage overlooking Blue Mountain Lake, furn, wooded, 4 ac, screened porch, antiques, \$250/wk, \$50/day. x33005 or 334-7531.

Sale/Lease: Nassau Bay, 4-2-2, recently remodeled, trees, \$795/\$114,500. Minh, 333-6806 or 484-2456.

Rent: Breckenridge, CO, ski house, sleeps 12, 1 block from ski shuttle. Larry, 303-482-9124.

Sale/Rent: Baywind II condo 1-1, W/D, refrig, w/ice maker, dishwasher, FPL, ground floor, avail immed, \$425/mo. Steve, 244-9625 or 486-8047.

Sale: League City, 82' x 130' lot, \$9.5k, 333-5493.

Rent: Ski Condo, Winter Park, CO, fully furn, 2-2, sleeps 6. 488-4453.

Sale: LC/Brittany Bay, 3-2-2, split bedroom plan, covered patio, wood stor bldg, FPL, security system, \$110k. 554-6082.

Rent: Heritage Park North, 3-2-2, new landscaping, siding, miniblinds, lg central living room w/FPL, ceiling fan, \$825/mo + deposit. Walter, x44424 or 332-1609.

Rent: Time share condo anywhere in the world, \$575 domestic, \$600 international. 283-3339 or 286-8417.

Sale: LC comm property, 1824 E. Main, 2 story frm bldg, 3000 sq ft plus two bldg site of Lee Holley's Antiques, \$100k for property, any inventory at cost. 332-5823.

Sale: LaPorte/Glen Meadows, 3-2-2, \$79.9k. Frank, x34933 or 470-8993.

Sale: Waterfront community, 3 BR, wood floors, lg kitchen. 538-1849. Sale: Taylorcrest, 4-3-2.5D. southern colonial, 3200 + sq ft, pool/spa, water view on cul-de-sac, island kitchen, 3 BR suites, balconies, art studio, \$290k, 3% co-op. Richard x30271 or 326-4963.

Cars & Trucks

'88 Jeep Cherokee, 4-WD, 5-spd, sun

roof, 50k mi, \$7k. Jerry Craig, x48116 or 420-2936.

'84 Mustang GT 350 ragtop 20th anniv, 1323 of 3000 built, 5 spd, PW, PDL, tilt, CC, Glaspak, 93k mi, bra, 302 HO, \$3.5k, OBO. 996-8020.

'79 MG Midget, very good mech cond, red, \$1,995. 286-5871.

'68 Ford Galaxie 500, 2 DR, runs great, \$1.8k. 538-1019.

'78 Ford Mustang II, new paint, rebuilt eng, \$1.8k. 538-1019.

'86 Chevy Silverado suburban, blk/grey int, \$7.5k, ex cond, Silverado pkg, PW/PL, dual air, oak int pkg, cruise control, trailer pkg, AM/FM cass. x45143 or 383-2627.

'86 Toyota Cressida, burgandy, 76k mi, auto, sun roof, leather int, alarm AC. Darrell, 479-4702.

'91 Mercedes 190E-2.3, 5 spd, rare, ex cond, 32k mi, alarm, wind tint, sheepskins, \$19.9k. Dave, 333-6818 or 486-6859.

'90 Mercury Topaz GS, 46k mi, ex cond, AM/FM cass, PW, \$5.5k. x49854 or 554-6167.

'85 Mustang convertible, blue w/tan top, 3.8L, V8, 58k mi, all pwr, good cond, \$4,495 OBO, trade for pickup or 4WD considered. x30017 or 332-2229.

'84 Nissan 300ZX, silver w/t-tops, 5 spd, 87k mi, well maint, \$4.2k. x39045 or 488-2676.

'87 Mazda 323, 4 dr, wht w/tinted win, 65k mi, good cond, \$3.5k, OBO. x30189 or 333-2482.

'92 Eagle Talon, metallic turquoise, 23k mi, 3 yr/36k warr, \$10.8k, OBO. 333-6610 or 532-3067.

Toyota Tercel, tan, 4 spd, 2 dr, AM/FM, 123k mi, runs fine, brakes need some work, \$900. x35059 or 532-3342.

Boats & Planes

22.5' Sea Ray Cuddy cruiser, 228 hp Mercuriser I/O, new Alpha One outdrive, 6" Color Furuno depth finder, VHF, ex cond, galvanized tandem trailer, \$8.5k. Mark, x38013 or 992-4132

Windsurfing equip, 4 sailboards, mast, sails 3.6 to 7.0. Arlene, x37150 or 488-6156.

'85 Sea Ray Sundancer 25.5', twin Mercurisers, depth finder, good cond, w/trailer, \$18.5k; covered boat slip & boat lift at Nassau Bay, boat lift, \$1k. Don, 480-7758.

U.S. Yachts 22' sloop w/4.5 hp eng, 2 sails, galley, sleeps 5, ex cond, \$5,399. Russ x45979 or 332-1769.

Laser Sailboat, 13'-11" L.O.A, 76 sq ft sail, centerboard, no trailer, BO. Jerry, x35226 or 333-2778.

Cycles

Lady's KHS Montana 12 spd hybrid mountain bike, less than 50k mi, ex cond, new \$218, sale \$100. x32034 or 554-6892.

Audiovisual & Computers

Hewlett Packard peripheral for HP-41, cassette drive HHP82161A and HP-IL module 82160A, ex cond, in orig boxes, BO. Carlos, x38879 or 554-7726.

AT&T Model 3B2/310 Unix System V computer w/AT&T 605 asynch terminal, 32-bit WE 32100 chip, 10 MHz, 72 MB HD, 5.25" floppy, 2 MB RAM, 6 RS-232-C serial ports, AT&T XM 23 MB cart tape drive, all manuals, tapes. Lore, x38477.

386-20 computer w/105 MB HD, 2 MB RAM, VGA monitor, w/printer, \$850. 894-8380.

PC-AT 286, 1 MB RAM, HD, DOS 5, mouse, joystick, VGA color, color printer, \$500 for all. 286-5971.

EGA monitor & graphics card, \$120, OBO; Sega card, \$20; Fox Pro, OS2, MS-C & assort titles still in box, BO; Novell 7 Lantastic software & LanCards. Terry Michael, x36351.

Macintosh 40 MB Conner HD, internal, \$80. Robert, x37431 or 538-1596.

Nintendo, w/18 games, 2 controllers, gun, & game genie w/codes, \$250. 334-1460.

Mac Plus, 4 MB RAM, extra FD, kybd, plus SW, \$375. 482-2527.

Pets & Livestock

Pair 4 yr old EMU proven breeders, laid 29 eggs last year. 482-0874.

Pot bellied pigs, \$75; horse stalls for rent, \$35/mo; full board, \$160/mo. 713-452-6078.

Male cat, wht w/blue eyes, neutered, approx 1.5 yrs, we have to many pets, \$10. 944-1531.

AKC mini Xmas Schnauzers, mother wht, father salt & pepper, six wks, \$200. Dorothy, 482-1505.

Musical Instruments

Gulbranson spinet piano, ex cond, \$1k. Marjy, 488-3389.

Ibanez RG550 electric guitar w/EMG pickups, Floyd Rose Tremolo & hardshell case, new \$1.3, sell \$495. 280-9621.

Yamaha keyboard, 61 full sz keys, 100 voices, harmony, rhythm, stereo spkrs, AC/DC, \$70. 244-4875.

Household

Contemporary lt peach color coffee end table ex cond, \$175, for set. x31229 or 333-5113.

Roll-top desk, solid oak, 55" width, new cond, paid \$1k, sell \$350. 280-9621.

Twin sz matt, box spring, frame and brass board, \$100. x37137 or 482-8966.

DBL bed sz matt, boxspring, frame, fabric headboard, ex cond, \$200, OBO. x37889.

Sm oval dinette table w/four chairs, \$50. Dena, x45122 or 332-6477.

Simmons wht baby crib, \$150; MBR

suite, kg bed w/matt & box, triple dresser w/mirror, night stands, armoire, \$750, will deliver. 480-7266.

Wanted

Want Crown power AMP or comparable quality, 400-800 Watts w/without spkrs. x36340 or 436-9818.

Want riders for vanpool, West Loop park & ride to NASA & contr. Richard, x37557.

Want elec chess set, elec dictionary, Franklin Mint books-leather bound, china-comp set and serv pieces, Barbie van in ex cond. 280-8746.

Want NASA patches for 4yr old starter collection any other items pins or souvenirs appreciated. Karen, x37389 or 992-3783.

Want roommate to share 1000' condo in Webster, priv BR 12' x 14', private bath, \$200/mo & 1/2 bills. Greg, 286-6036.

Want wheelchair in good cond. x38489 or 286-9961.

Want good compound bow and arrows at reasonable price. Jody, x36726.

Want guitar, hollow body archtop, electric or not, prefer Gibson. Les, 333-7301 or 772-7981.

Want used electric guitar, reliable & inexpensive. x30055.

Want home or land with low or zero down no approval assumpt. 482-0874.

Want dual cass deck, solenoid keys preferred, Panasonic, Technics, Akai, or equiv brand. Raymond, x31375 or 534-4839.

Want 24' extension ladder. Al, x49804 or 334-3896.

Miscellaneous

Four station weight set 2 yrs old, stations are squats, butterfly, sitting leg curls, chair for dips, fully assembled, \$575. 554-6082.

Industrial type ladder 2-6' sections, \$25; 5 sets alum sliding dr track for 1/4" thk wood or glass drs, 6' long per set, \$18; variable transformer 10 AMPS, zero to 140 VAC, \$50; hydraulic cylinders 5" stroke, 2 1/4 dia \$20. 921-7212.

One round trip ticket anywhere SW Airlines flies, exp 11-08-94, no holidays, \$250. Barry, x39951.

Left handed golf clubs, MacGregor Tourney Irons & H&B woods, \$75. Brad, x37653.

Dorm frig, \$75, OBO; womens sz ice skates, pd \$300, sell \$100, OBO; new decline weight bench, \$15; elec jeep duplicate gift, was \$199, now \$100. Karen, x37389 or 992-3783.

After Five dresses, black, sz 7 to 12, prices \$25 to \$50; full length formals, blue, red, plum, green, fushia, sz 7 to 14, priced \$50 to \$75, all in ex cond. Becky, x31033 or 286-9632.

Riding lawn mower, 11 Hp, 30" deck, 8

spd, ex cond, Mark, x38013 or 992-4132.

Pres & First Lady Gold charter mem \$750, or trade for Nordic flex gold mach or tread mill. Jim, 282-3183 or 482-2941.

Lg hand crafted doll house, green or wht bead trees. 332-6266.

Pool table 8 ft long, ex cond, was \$1.4k, now \$850; 2 ton eng hoist, paid \$440, sell \$280. Dave, x33729 or 585-3404.

Sunglasses, Gargoyles men's mirrored wrap around, were \$85 BO, like new. Bob, x33149.

Graco baby stroller, \$40; antique brass FPL screen 31" x 38", shovel & poker incl, \$20; Singer sewing machine w/o cabinet, \$40. 480-3424.

NordiTrac "Pro". 334-2226.

Vertical blinds, new Wards 3.5" fabric w/valences, 78" x 84", peach, teal, white, attach H/W incl, were \$125 ea, now \$60 ea; vacuum cleaner, self propelled, \$50; small set of stereo spkrs, \$20; pink umbrella stroller, \$25; baby's changing access table w/baskets \$15. Ed, 481-4889.

Solomon SX40 ski boots sz 945, \$50, OBO; Seateac hardback BC good cond w/inflator hose red/blk, \$125, OBO. Terry, x36351.

Seven ft cherry wood pool table w/dk green felt, all access, like new, \$1750, OBO. Monte, x41117.

Kreepy Krauly pool cleaner, \$200; auto chlorinator, \$30; 1-8ft & 1-12ft metal ladders \$15 ea.; golf bag \$10; golf bag and clubs, \$60; 20" Hutch bike \$75; 26" Hardrock Mt bike 1 yr old, \$15; DP Ultra GYM PAC II, ex cond, paid \$800, make offer; like new short wet suit, \$40. x3115

Silvery Moon



Decision to orbit Moon early example of 'good, quality, gutsy decision making'

[Editor's note: This is the final installment in a two-part series commemorating the 25th anniversary of the Christmas 1968 flight of Apollo 8.]

By Brian Welch

In the course of a frightful year, one unparalleled in the American experience for the impact and compression of truly historic events, it was, in the end, a voyage of exploration that became the most significant news story of 1968. To categorize the year as merely 'turbulent' would be a historic understatement. It was the year when Bobby Kennedy and Martin Luther King fell to assassins' bullets; the year when a sitting president announced he would neither seek nor accept the office again; it was the year of renewed race riots in virtually every major American city; the year of sit-ins, draft card burnings and the year when the first airliner was hijacked to Cuba.

In the halls of the National Aeronautics and Space Administration, within the confines of a technical world where the absolutes of mathematics and science might have been expected to lend a certain stability, there was also tension and uncertainty.

The space agency was still struggling to recover from its worst nightmare and most harrowing accident—the loss of the Apollo 1 crew in a spacecraft fire on the launch pad in January 1967. The deaths of Grissom, White and Chaffee had shaken the country the year before and had revealed widespread problems within the lunar landing program. The recovery had not been easy, either technically or politically, and criticism had been harsh. As the recovery continued and the weeks passed, there was a keenly felt, inexorable erosion in the margin for meeting President Kennedy's goal of landing men on the Moon before the end of the decade. "The probability of landing on the Moon before 1970 is not high," wrote Robert Gilruth, the first director of JSC (then the Manned Spacecraft Center) in a September 1967 memo. For a time, the flight of Apollo 4 in August 1967 had lifted NASA's spirits. The unmanned launch, the first of a flight-ready Saturn V, went perfectly and seemed to sweep away many of the doubts still lingering from the accident eight months before. There was elation in Huntsville, at the Cape and in Houston. And in Washington, George Mueller, the associate administrator for space flight, called the test of the AS-501 vehicle 'the most significant single milestone of the Apollo-Saturn program.' Then came April 1968.

On April 4, NASA launched AS-502, also known as Apollo 6. If this unmanned test flight of the Saturn V went well, the following mission would carry a crew into Earth orbit. It did not go well.

The chief designer of the rocket, Dr. Wernher von Braun, remembered the launch in starker terms. "For two minutes everything looked like a repeat of the first Saturn V's textbook performance. Then a feeling of apprehension rolled through the launch control center when, around the 125th second, telemetered signals ... indicated an apparently mild Pogo vibration." After the first stage dropped away, having performed nominally, the observers felt better. The five J-2 engines on the S-II second stage burned perfectly for more than four minutes. Then the number two engine began to sputter and it shut down. The number three engine shut down a split second later. After the faulty S-II stage fell away, the third stage, the S-IVB, fired and placed the test hardware into a lopsided Earth parking orbit. Two revolutions later, the spacecraft received a command for the third stage to reignite.

It didn't. Despite repeated efforts, the J-2 engine would not start. Exasperated ground controllers succeeded in separating the Command and Service Module (CSM), firing the Service Propulsion System engine to send the spacecraft to the required altitude, and then bringing the Command Module through an atmospheric reentry sequence to at least conduct a heat shield test.

"...the flight," von Braun wrote, "clearly left a lot to be desired. With three engines out, we just cannot go to the Moon." Although a significant problem for the Apollo program, the AS-502 launch didn't get major play in the

nation's newspapers. April 4 was the day Martin Luther King was shot in Memphis. As the month of April came to a close, events were converging within the space program, events which usually converged around one man, George M. Low; events that would culminate eight months later in the voyage of Apollo 8.

By April 1968, Low had been on the job for one year as the manager of the Apollo Spacecraft Program, responsible for the CSM and the Lunar Module (LM). He had been working six and seven days a week, 10 and 12 hours a day in what former JSC Director Dr. Christopher C. Kraft Jr. described as 'a tenacious effort' to turn the program around following the Apollo 1 fire.

Low once described the demands of his new job in those first months: "These were the Apollo spacecraft: two machines, 17 tons of aluminum, steel, copper, titanium, and synthetic materials; 33 tons of propellant; 4 million parts, 40 miles of wire, 100,000 drawings, 26 subsystems, 678 switches, 410 circuit breakers. To look after them there was a brand new program manager who would have to leap upon this fast-moving train, learn all about it, decide what was good enough and what wasn't, what to accept, and what to change. In the meanwhile, the clock ticked away, bringing the end of the decade ever closer."

In the spring of 1968, Low was confronted with good news and bad news. Progress in the redesign of the CSM was going better than expected, which meant that the manned Apollo 7 Earth orbit test flight of the spacecraft could probably take place on schedule in the fall. But problems with the LM were mounting and the Apollo 8 mission, intended to be a manned Earth orbit test of both the CSM and the lunar lander in late 1968, seemed certain to fall behind schedule. The LM was, in fact, to borrow the laconic vernacular of NASA's operational world, the great hitch in Apollo's get-along.

By July, Kraft remembers, the hitch was a major headache. "George Low expressed great consternation at the problems with the LM," he recalls. "They had leaks in the fluid systems, wiring problems, and they were really struggling like hell to get the damn thing to hang together." It was at about that time that Kraft, with responsibility for flight operations and spacecraft software, was called to Gilruth's office. Also present were Donald K. "Deke" Slayton, responsible for the astronaut crews, and George Low.

"George has a proposition for you," Gilruth said. The proposition was bold, highly secret, startling, and elegant in its simplicity. Low proposed that they bypass the lunar module, for the time being, and press on to the Moon. He suggested that with recent progress in the CSM program, there was reason to consider sending the spacecraft to the Moon, if Apollo 7 went well. If so, then Apollo 8 could reenergize the program, add critical knowledge necessary for lunar landings and make possible the goal that everyone had been working on since 1961. Low wanted to know if his idea was technically feasible.

By July 1968, NASA was facing an ever tighter deadline for reaching the Moon. Fewer than 18 months remained before the end of the decade, and problems with the Lunar Module (LM) program threatened to throw the schedule off track. It began to look as if a lunar landing before 1970 would not be possible.

Despite problems with the LM, however, the Command and Service Modules program was going well. It was at this point that George M. Low, the Apollo Spacecraft Program manager, proposed the Apollo 8 mission, originally intended as an Earth-orbit test of both spacecraft, be altered. Under the plan proposed by Low, NASA could save time and turn adversity to advantage by sending the CSM to the Moon.

In early July, Low and Center Director Robert Gilruth presented the idea to the men responsible for flight operations and flight crews: Christ Kraft and Deke Slayton. "We were taken aback," Kraft remembers. Kraft and Slayton consulted their experts, Low consulted

his.

The plan was surprising, but not shocking for Eugene Kranz, now director of Mission Operations, and former JSC Director Aaron Cohen, then working on CSM development. "I got a call from Kenny Kleinknecht, who was the Apollo Command and Service Modules project manager, saying I needed to meet with George Low," Cohen remembered. "George Low explained the mission to me and asked me to verify that the Command and Service Modules could do that mission. My role at the time was to validate the hardware. Was it certified? Was it of the integrity that would allow us to do that part of the lunar mission?"

Cohen ended up writing the memo for Low's signature that stated the vehicle was indeed ready to make the voyage. "It wasn't a tremendous shock, but it was a very bold maneuver, a bold step from where we were. I don't think I was really shocked—more enthusiastic and excited. That was the mood of the center. Everyone thought it was great; they thought it was exciting, they took on the challenge."

According to Kranz, "By the time we got into early Apollo, the space program had moved to a point of confidence in leadership, and confidence that our leaders had a good sense of timing and direction. This meeting was not unlike other meetings we had in the Gemini program, where all of a sudden the managers came in and said, 'Hey, let's do an EVA on Gemini 4.'" It was, Kranz recalls, "good, quality, gutsy decision making."

But there was a catch. From the perspective of the operational community, a great deal of the risk would have already been taken when the CSM struck out for the Moon. Low's original plan had called for looping around the Moon and coming back to Earth.

Kraft's men thought they should go into lunar orbit. That maneuver, after all, was integral to the eventual goal of landing men on the surface. But it would also raise the stakes considerably.

"That's a lot different than just going around the Moon, believe me," Kraft said. "I remember when I told Frank Borman that we were

pressing for a lunar orbit insertion, he didn't speak to me for two or three minutes. He just stared." At the time, the U.S. didn't even have a precise gravitational model of the Moon. A NASA probe called Lunar Orbiter was circling the Moon, photographing the surface and mapping potential landing sites. But its path didn't coincide with orbital predictions.

"We were looking at that data and saying, 'We've got the same problem,'" Kraft remembers.

After Apollo 8, researchers realized that objects orbiting the Moon would always encounter minor—yet critical—perturbations in their trajectories due to the presence of large mass concentrations, the result of millions of years of bombardment by rocky objects.

"It was data derived from Apollo 8 which gave us an empirical method—get that, empirical—for calculating trajectories on later flights," Kraft noted.

But neither the knowledge nor the method were in hand in July 1968. By the end of the month, the teams investigating Low's proposal had all said it was possible. Kraft, Slayton and Low reconvened in Gilruth's office. It was, Kraft would later say, "a very profound day."

"At this point," Kraft remembers, "Gilruth also thought it was a good idea. He picked up the phone and called Wernher von Braun in Huntsville. This was at 11 a.m. 'What are you doing this afternoon?' he asked him. 'Can we see you about 2 o'clock this afternoon?' Of course, the answer was yes, and we got on the Gulfstream and flew to Huntsville. Before we left, Gilruth found out that Sam Phillips was at the Cape. He asked Phillips to meet us that afternoon in Huntsville."

Phillips, the Apollo Program director, later wrote that a quickly scheduled meeting of the Apollo management team was held in Huntsville that afternoon. "The three-hour conference didn't turn up any 'show stoppers.'" Quite the opposite; while there were many details to be reexamined, it indeed looked as if we could do it. The gloom that had permeated our previous program review was replaced by excitement."

All was now dependent on the success of Apollo 7. On Oct. 11, 1968, the new Block II CSM, carrying Walter M. Schirra, Donn Eisele and Walter Cunningham, lifted off from the Cape atop a Saturn 1B. "During the 163 orbits of Apollo 7 the ghost of Apollo 204 was effectively exorcised," Phillips wrote.

The stage was set for the next step. Debriefings were held with the Apollo 7 crew. Management teams met in lengthy meetings. Data was reduced, flight plans were put forth, excitement began to grow. Finally, on Nov. 11, Thomas O. Paine, the new acting administrator of NASA, conducted a go/no-go review of the lunar orbit plan.

"By this time," Phillips wrote, "nearly all the skeptics had become converts. At the end of this climactic meeting Mueller put a recommendation for lunar orbit into writing, and Paine approved it. He telephoned the decision to the White House, and the message was laid on President Johnson's desk while he was conferring with Richard M. Nixon, elected his successor six days earlier."

The decision to go ahead, Kraft says, "was the boldest decision of the space program. But the gains were worth the risks. It was the first manned launch of a Saturn V. It was the first burn of an S-IVB into a lunar trajectory. It was the first time men had left the gravitational influence of the Earth. It was the first time we had tried to navigate with onboard systems to the Moon. It was the first time we went into orbit around another planet. It was the first time men had looked down on the Moon from a distance of 60 miles. It was the first time we came out of orbit around another planet. And it was the first time we did a 36,000 foot-per-second reentry, the same as you would encounter in returning to the Earth from any planet."

Shortly thereafter, elaborate invitations were sent out for the launch with the inscription, "You are cordially invited to attend the departure of the United States Spaceship Apollo VIII on its voyage around the moon departing from Launch Complex 39A, Kennedy Space Center, with the launch window commencing at 7 a.m. on December 21, 1968."

At 7:51 a.m. CST Dec. 21, the world watched for the first time as a manned Saturn V, majestic yet ponderous, arose from the coastal wetlands of central Florida, the grandeur of the spectacle made even more pronounced by the presence of humans, by the purpose of their mission. Frank Borman, James Lovell and William Anders were on their way.

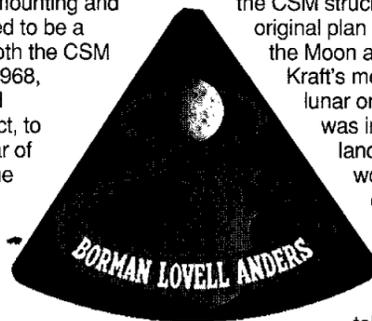
Two hours, 27 minutes into the flight, Capsule Communicator Michael Collins told the crew, "You are go for TLI." The obtuse acronym had never before been uttered during a space mission. It meant, that Mission Control had given the go-ahead to perform the trans-lunar injection burn. Humans were about to leave the cradle.

The burn lasted five minutes, 19 seconds. Apollo 8 reached a velocity of 24,200 miles per hour and left the bonds of Earth. From the back row of consoles in Mission Control, Chris Kraft was overheard to say, "You are on your way. You are really on your way."

On Christmas Eve, Apollo 8 went around the far side of the Moon and the longest loss of signal anyone ever remembers in Mission Control. It lasted for 34 minutes. During that time, unobserved by Earth, the critical burn of the Service Propulsion System engine took place and Apollo 8 went into lunar orbit. At the appointed time, CapCom Gerald Carr began trying to establish voice contact with the spacecraft. "Apollo 8, Apollo 8, Apollo 8..." The tension, all present there that day agree, was unbearable.

"Go ahead Houston," Lovell said at last, and Mission Control, as is tradition, went momentarily wild before calm returned and the operators continued to monitor their data. As the day progressed, those operators, and the world, listened in rapt attention as the astronauts described the "vast desolation" of the Moon. That evening, one out of every four people in the world, nearly 1 billion people in 64 countries, heard the special message from the crew of Apollo 8 to their fellow sojourners back home on "the good Earth." *In the beginning, God created the Heaven and the Earth...*

It was the best Christmas present, by far, that anyone at NASA who was there at the time ever remembers having received. □



Rotzoll receives NOAA bronze medal for leadership

Doris Rotzoll recently was awarded the National Oceanic and Atmospheric Administration bronze medal for her efforts in implementing the Meteorological Interactive Data Display System at JSC.

The award was presented Nov. 19 at a ceremony at the National Weather Service Headquarters in Silver Spring, MD.

Rotzoll works in the National Weather Service Spaceflight Meteorology Group on site. She is the team leader of a group of Technique Development Unit meteorologists/ computer specialists within the SMG.

According to the award nomination under Rotzoll's leadership the SMG TDU "successfully customized the JSC MIDDs into

one of the leading operational McIDAS-based systems in the world." Rotzoll is a recognized authority on McIDAS and the NASA MIDDs system, and has expertise in satellite meteorology. She is a member of the newly-created MIDDs Evolution Task Team and is active in a number of other projects within SMG and the NASA

weather community.

Hackett recipient of Marilyn J. Bocking Award

Marilyn Hackett has recently received the Marilyn J. Bocking award for secretarial excellence.

Hackett, secretary to the Director, Flight Crew Operations has excelled in her job through "competence and by taking extra steps in areas that have enhanced productivity and contributed to a better working environment," according to the award nomination.

Hackett has been with the directorate since 1990.

Beauregard recognized for secretarial excellence

Lori Beauregard has recently received the Marilyn J. Bocking award for her efforts as secretary in the Automation and Robotics Division.



Rotzoll



Hackett



Beauregard

According to the award nomination, Beauregard is responsible for fostering the "esprit de corps" within her division "that transforms a good division into a great division."

Supporting the efforts of the division manager, Beauregard developed the administrative staff to best support the needs of the new division and "organized and trained an efficient secretarial staff."

People

Last chance for Apollo 8 gala tickets

Tomorrow is the last chance to purchase tickets to the Apollo 8 Silver Anniversary Gala to be held at 8 p.m. Saturday at Space Center Houston.

Luci Baines Johnson, daughter of President Lyndon B. Johnson, will be among the special guests honoring Apollo 8 crew members Frank Borman, Jim Lovell and Bill Anders.

Apollo 8 Flight Director and former JSC Director Gerry Griffin will emcee a brief program.

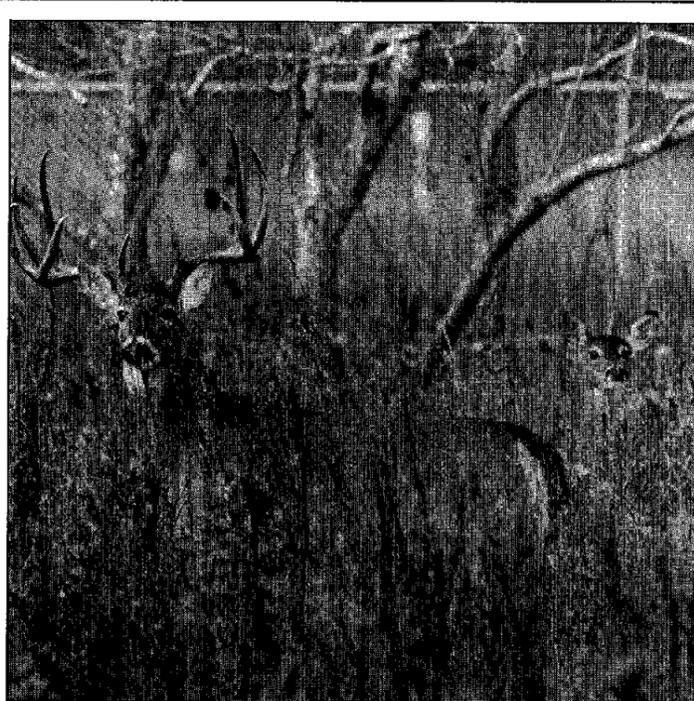
The Apollo 8 retrospective begins Friday with two panel discussions, open to the public, to be held at Teague Auditorium.

Mike Duke will moderate a presentation on early automated lunar exploration and Apollo landing site selection scheduled for 1 p.m. Participants include Eugene Shoemaker, discussing the Ranger and Surveyor missions' roles in lunar science; Oran Nicks who will cover Apollo precursor missions; Alexander Basilevsky, discussing Russian automated lunar missions; Don Wilhelms, who will review lunar mapping, and John Sevier, who will discuss Apollo surface mission planning.

Following the science panel, Joe Loftus will moderate a panel on the decision to send humans to the Moon beginning at 3 p.m. Panelists include Apollo 8 crew members; Aaron Cohen, who served as manager of the Command and Service Module Office; Christopher Kraft, then director of Flight Operations; Glynn Lunney, an Apollo 8 flight director, and Bill Tindal, head of the Mission Planning and Analysis Division.

Tickets to the Apollo 8 anniversary celebration are \$10 per person and available at Space Center Houston, the JSC Exchange Store, the Clear Lake Chamber of Commerce, Spaceweek National Headquarters.

For more information about the Apollo 8 anniversary celebration, contact Community Affairs at x33276.



JSC Photo by Mark Sowa

This large buck is one of the many deer inhabiting the wooded areas surrounding the Gilruth Center. JSC employees share their work site with a variety of wildlife including squirrels, opossum and deer.

Deer at risk from cars, poachers

By Eileen Hawley

In a few short weeks children everywhere will be searching the skies for eight tiny reindeer, but JSC employees can spot a variety of deer every day in the wooded areas throughout the campus.

The Security Division has a lot of experience with the deer, usually following a vehicle accident. "We average about three deer killed each year," said Security Operations Branch Chief, Bob Gaffney "but we're down a little bit this year." Which is good news for the deer.

When a deer is killed, security contacts the local game warden to remove the animal. The wardens also remove deer to other locations when the population becomes too large for the avail-

able food sources on site.

The Security Division works hard to safeguard the deer from the dangers of traffic on site but stress that employees must be sensitive to the presence of wildlife in the area. Gaffney said that when officers on patrol notice deer trying to cross JSC roads, the officers stop traffic to allow the deer safe retreat to the woods.

But cars aren't the only hazard to JSC's deer population. "We get occasional poachers," said Gaffney. Poaching is illegal and security does keep a wary eye out for the wayward deer hunter who attempts to hunt on JSC property. Gaffney asks that employees alert security if they notice anyone wandering through the wooded areas on site.

Employee recognition award introduced

The JSC rewards and recognition program is designed to recognize the Center's outstanding employees, typically with cash awards.

In the face of budgetary constraints this year, the center's ability to reward employees for outstanding contributions with cash awards will be limited.

In light of these budget limitations the Human Resources Department explored alternative methods of rewarding JSC employees for their efforts.

The "Time Off Award" is one solution to this quandary.

This award is designed to recognize employees for superior contributions to their organizations by giving them excused "time off" from work without charging annual leave accounts. All JSC civil service employees are eligible for this new award.

Time off awards may be granted

in increments of one hour with a maximum of 40 hours for each occurrence, and 80 hours per year. Awards of up to eight hours may be approved by an employee's immediate supervisor. Time off in excess of eight hours requires approval from the next level of management.

Employees may elect to use their time off award at any time, subject to their supervisor's approval. Time off may be taken the same day the award is presented or up to one-year later.

Although time off awards do not have a monetary value to the employee and may not be converted to cash, they do represent an impact to each organization in terms of loss of the employee's services.

For additional information on the locality pay increase or the time off award program, contact Human Resources at x38413.

Space News Roundup

The Roundup is an official publication of the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas, and is published every Monday by the Public Affairs Office for all space center employees.

Dates and Data submissions are due Wednesdays, eight working days before the desired date of publication.

Swap Shop ads are due Fridays, two weeks before the desired date of publication.

Editor Kelly Humphries
Associate Editor Kari Fluegel

AIDS Awareness Month

AIDS—are you at risk?

By Kathy Parker

Many people are concerned about contracting AIDS by casual contact with an infected person. Some people are at risk, but most others may be worrying needlessly.

December is "AIDS Awareness Month," and the JSC Total Health Program encourages employees to better understand the facts about this serious and frequently misunderstood illness.

AIDS and HIV, the virus that causes AIDS, are easily avoided. According to the Center for Disease Control, "You can't just catch AIDS like a cold or flu, because the virus is a different type. The AIDS virus is transmitted through sexual intercourse, the sharing of drug needles or babies before or during birth."

The AIDS virus is not spread by day-to-day contact with people in schools, in the workplace, in stores or in swimming pools, even if an HIV-infected person is present. You can shake hands, hug or be in a crowded elevator with a person who has AIDS without fear of contracting the disease. AIDS cannot be transmitted by eating food that has been handled, prepared or served by an AIDS-infected person.

No clinical evidence exists that AIDS can be caught from a mosquito bite, bed bugs, fleas, lice or any other insect. No known instances exist of HIV transmission via drinking glasses, eating utensils, clothing, telephones or toilet seats.

The AIDS virus has been isolated in saliva, sweat, tears, urine and excrement, but no reports exist of transmission from contact with these bodily secretions.

No danger ever existed of getting AIDS from donating blood, and the risk of contracting AIDS from a blood transfusion has been significantly reduced.

In order to make the blood supply

as safe as possible, donors are now screened for risk factors for the disease and donated blood is tested for the AIDS antibody.

However, you can become infected by having unprotected sex with someone who is infected with the AIDS virus. HIV is found in the blood, semen or vaginal secretions of an infected person. Sharing drug needles and syringes with an infected person also puts one at great risk. Hemophiliacs and others have been infected by receiving transfusions of tainted blood before screening measures were imposed.

Your chances of contracting AIDS depends on your lifestyle. If you don't engage in high risk behaviors and don't become involved sexually with someone who does, your risk of catching AIDS is almost nil.

High risk behaviors include unprotected sex without a latex condom and outside a mutually monogamous relationship. Other high risk behaviors include intravenous drug use or being under the influence of any substance that interferes with the ability to think clearly or that might lead you to take risks for HIV infection.

AIDS does not discriminate. People who have died of AIDS are male and female, rich and poor, homosexual and heterosexual, the educated and uneducated. And AIDS has occurred in people of all races.

The most important protection against contracting AIDS is making the right choices. People make choices about their behavior, and that choice can either guard against or risk exposure to this fatal disease.

For additional information or confidential referrals for HIV/AIDS education, counseling or testing, contact the JSC Employee Assistance Program at x36130 or the Occupational Health Clinic at x34111.



total health

Discussion of national performance review today

JSC employees are invited to attend a presentation discussing the implications of Vice President Al Gore's National Performance Review.

The presentation begins at 11:30 a.m. today in Teague Auditorium. The featured speaker is Beverly Godwin, a member of the Vice President's National Performance Review team.

The NPR was a six-month review of the federal government lead by Vice President Gore to initiate a

long-term commitment to creating a government that works better and costs less.

The review involved federal employees from all parts of the government, state and local leaders, management experts, business leaders, and private citizens.

Major recommendations resulting from the study were published in September. NASA was a participant in the review and a NASA NPR report is expected to be released shortly.

CFC exceeds target

(Continued from Page 1)

Roberto Equisquiza, EP5; and Karen Lee, LB3. Winners of the three-month reserved parking spaces were: Claudia Hess, BV; Glen Nakayama, ES; and Nancy Smith, EC.

The CFC officially closed Nov.

30, but contributions have continued to come in, said CFC Coordinator Teresa Sullivan.

Anyone still wishing to make donations to the Combined Federal Campaign should contact the JSC Exchange Operations Office at x39168.